

**NOAA Climate and Societal Interactions Program –
CSI - Water
FY 2011 Information Sheet**

The NOAA Climate and Societal Interactions program (CSI), formerly the Climate Assessment and Services Division of CPO, provides national leadership in developing interdisciplinary science and services, including assessments, for application in climate-sensitive sectors and regions. NOAA CSI is designed to support and advance the evolving NOAA Climate Service effort (<http://www.noaa.gov/climate.html>). The goals of the CSI program are: 1) identification and articulation of user-community requirements in multiple sectors, initially with regard to water resources and the coastal zone then branching to related sectors; 2) research and development of innovative and broadly applicable approaches to support decision-making, especially for risk characterization, both through a broad network of regionally scoped, long-term efforts and stakeholder-specific efforts; and 3) promotion of the transfer of knowledge, tools, and products across climate service development efforts (within NOAA, across the federal government, nationally, and internationally).

CSI-Water, formerly a part of the Sectoral Applications Research Program (SARP), addresses the needs of a specific stakeholder or set of stakeholders grappling with pressing climate-related water resource challenges. CSI-Water funds interdisciplinary teams of researchers and decision makers over a limited time span, but the projects advance decision making by reducing explicit vulnerabilities to climate variability and change. Through research, tool development and decision support, CSI-Water works collaboratively with CSI-Regions to support water managers and related stakeholders coping with impacts of climate variability and change and to support NIDIS through the Coping with Drought initiative by funding projects related to drought, particularly those that enhance regional adaptation initiatives.

CSI- Water

CSI-Water (formerly part of SARP- the Sectoral Applications Research Program) is designed to support an interdisciplinary and applicable knowledge base and mechanisms for the creation, dissemination, and exchange of climate-related research, information, and decision support resources. These are critical for understanding and addressing resource management challenges and enhancing the capacity of key socio-economic sectors and systems to respond to and plan for a changing climate. The overarching objectives of CSI-Water are:

- Provide a better understanding of the interactions and vulnerabilities of human and environmental systems in the face of a changing climate.
- Improve insight and understanding related to resource managers and planners' needs and obstacles they face in coping with climate variability and change, for an increasingly effective and relevant climate service.
- Produce cutting-edge knowledge, tools, methodologies, etc., for decision makers' use in vulnerability analysis, planning, adaptation, mitigation, etc.

- Advance the infusion of climate information, including information on climate risks and uncertainty, in decision-making processes on various scales.
- Promote partnerships between the scientific and sector-specific decision-making communities for continued use and understanding of climate forecast information.

Target Audience

CSI-Water projects are designed to respond to the climate related information needs of a specific group of water managers, planners, or decision makers and the public.

Sectors/Issues

CSI-Water supports applications research on the influence of climate variability and change on water resource management. CSI-Water points us toward specific products and information services that enhance response/coping capacity. The exact nature of the research activities and partnerships developed for each project is continually influenced by information needs, partners, and state of readiness identified by stakeholders within a given sector. Unless otherwise noted, CSI-Water projects may have a geographically defined scope within the US or overseas where the impacts of climate are acute and/or significant and relevant to NOAA interests.

In addition, over time the CSI-Water and RISA teams have supported the Coping With Drought (CWD) initiative of the National Integrated Drought Information System (NIDIS). NIDIS supports human populations that are coping with drought within the U.S. or U.S. transboundary areas through research, tool development (e.g., early warning systems), and decision support for water and resource managers. CSI-Water projects expand and improve the applicability of tools within NIDIS through focused research in regions, river basins and water management areas through cross-RISA collaborations, as well as a place-based focus.

Teams

Multidisciplinary teams of investigators are often best suited for addressing the complex issues related to climate, society and enhanced adaptation through the use of science and technology. Thus, CSI-Water projects usually consist of research teams that include social and natural scientists paired with decision makers, stakeholders, and resource managers located in the study region.

Partners

CSI-Water encourages partnerships and collaborations between researchers and critical decision-making institutions in the region of study including NGOs, boundary organizations, extension services, state and local governments, representative private sector organizations, NOAA, and other federal agencies. We encourage cost/effort sharing

between partners; while this is not required, any in-kind time should be reported within the proposal.

Outcomes

CSI-Water projects are expected to produce specific products and information services that enhance response and coping capacity of the target audience and have a clear plan for dissemination of the findings. Project teams should be able to speak to the transferability of the project outputs to other regions.

Finally, CSI-Water also encourages project teams that have already developed a product to explore opportunities provided by CSI-Transitions (described below) as an additional avenue for transferring results of projects to an operational setting.

Reference Information

General information on CSI-Water can be found at:

http://www.climate.noaa.gov/cpo_pa/sarp.

See Climate Program Announcement for FY11 for details (**expected to be posted in early July**).

- SARP: http://www.climate.noaa.gov/cpo_pa/SARP/
- Regional Integrated Sciences and Assessments: http://www.climate.noaa.gov/cpo_pa/risa/
- Transition of Research Applications to Climate Services: http://www.climate.noaa.gov/cpo_pa/nctp/
- U.S. Climate Change Science Program: <http://www.climatescience.gov/default.php>
- NWS Climate Services: <http://www.weather.gov/os/csd/index.php>
- NIDIS: <http://www.drought.gov/>

For more information, please see the following references related to CSI-Water:

- Brekke, L.D., Kiang, J.E, Olsen, J.R, Pulwarty, R.S, Raff, D.A, Turnipseed, D.P, Web, R.S, and White, K.D. 2009. Climate Change and Water Resource Management: A Federal Perspective: U.S. Geological Survey Circular 1331, 65p.
- IPCC, 2007: Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Avery, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- Jacobs, K.L., (2002), Connecting Science, Policy and Decision-Making: A Handbook for Researchers and Science Agencies, National Oceanic and Atmospheric Administration, Office of Global Programs, Silver Spring, Maryland.
- National Research Council. 1999. Making Climate Forecasts Matter. National Academy Press, Washington, D.C.

- National Research Council. 2009. Informing Decisions in A Changing Climate. National Academies, Washington, D.C.
- National Research Council. 2009. Restructuring Federal Climate Research to Meet the Challenges of Climate Change. National Academies, Washington, D.C.
- NIDIS Implementation Team. 2007. The National Integrated Drought Information System Implementation Plan.
- U.S. Climate Change Science Program, 2008. Synthesis and Assessment Product 5.3 Decision-Support Experiments and Evaluation using Seasonal-to-Interannual Forecasts and Observational Data: A Focus on Water Resources.

FY11 Priorities for CSI-Water

In support of NOAA's Climate Service efforts, CSI-Water is soliciting proposals for the following focus areas: a) climate-related impacts on urban water resource planning; b) projects supporting the Coping with Drought Initiative and NIDIS, and c) projects by RISA teams supporting the Coping with Drought Initiative and NIDIS. Decisions on the number of projects to fund are determined by the quality and quantity of proposals received in response to this call and the availability of funds.

Climate-related impacts on urban water resource planning

With increased awareness of climate and related impacts, there has been an associated demand for climate forecasts and information. Requests from water resource managers differ in their specificity and sophistication of the knowledge of current and future climate information products and potential product development. As a result, this year we are again funding projects by investigators who intend to work with a specific community of decision makers (e.g., wastewater managers, resource managers, etc.), geographic entity (e.g., river basins, etc.), or even an administrative unit (e.g., towns along a river, Native American Nation, state, etc.).

CSI-Water is supporting individual projects that address one or more of the following topics at the appropriate spatial and temporal scales and that lead to the development of a tool, model, methodology or other outreach materials (e.g., handbooks and synthesis documents):¹

- Identify the key science needs for adaptation between sectors e.g., water-energy).
- Identify and assess key vulnerabilities and appropriate adaptive responses

¹ Note: Extensive modeling of the physical and natural system is more appropriately handled through climate science programs both within the other sections of NOAA's Climate Program Office and other agencies.

- Identify and/or create methodologies to determine the costs of impacts and/or the cost-benefits of adaptation options to enhance preparedness. This could include, for example: indirect or secondary economic impacts, development of socioeconomic baselines, assessment and representation of uncertainties, and/or valuation of the impacts of possible losses on society (e.g., impacts to ecosystems)
- Develop risk analysis and management approaches as tools and guidelines for adaptation for decision-makers

Coping With Drought and NIDIS

CSI-Water is soliciting proposals for projects that can address the risk perception, analysis and management as well as specific socioeconomic and institutional aspects of drought planning. CSI-Water intends to award projects in one or both of the following areas: (a) cross-RISA collaborations related to drought planning or research, or (b) geographically focused efforts providing research for future NIDIS pilot projects.

Cross-RISA projects should foster collaboration between existing RISA teams focusing on drought to transfer knowledge, tools, and products from one region to another

NIDIS has prioritized the following regions for geographically focused efforts:

- Southeastern U.S. (specifically North Carolina, South Carolina, Alabama, Georgia, Florida)
- Southwestern U.S. and California
- Great Plains region
- Pacific Northwest region
- Chesapeake Bay watershed.

Within these regions, the geographically focused efforts should address one or more of the following objectives:

- Characterize climate-related risk perception by institutions faced with making decisions in a changing climate
- Assess the components and types of risk analysis (including changes in resource demand) that are needed for planning for a changing climate
- Assess impacts including indirect or secondary economic impacts, develop socio-economic baselines, and/or tools for generating drought risk scenarios (e.g. water supply analyses)
- Understand how a jurisdiction (local, regional or state) plans to respond to water demand in the face of drought. Specifically we are interested in understanding how

decisions are made to allocate water given competing needs from the residential, agricultural and environmental sectors

- Characterize the readiness of institutions that are dealing with drought to utilize climate information
- Transition products by linking them to the U.S. Drought Portal, in part through CSI-Transitions

Awardees would be required to report findings and communicate with both NOAA - SARP and NIDIS personnel throughout the lifetime of the grant.

Recommended Proposal Components

Successful proposals show that they are building on what is already known from the published literature about the proposed topic, prove that the PIs have a comprehension of the topic, and that their proposed work augments the existing science.

Successful proposals: 1) define (in a sentence or two) in the abstract or introduction the problem they are addressing; 2) describe in extensive detail the proposed methodology and how it can be accomplished; 3) clearly define expected outcomes; 4) provide a descriptive benefit analysis of the outcome; 5) describe their plan to measure the success of the project's outcome; 6) describe a dissemination plan for the study's results; 7) provide a description of a sector's readiness and need for climate information; 8) outline how the results of their work could be used in other areas/arenas or sectors and propose a mechanism for transferring the knowledge there; 9) include an evaluation component at the end of the project (and/or earlier if appropriate) that involves stakeholders; 10) provide an explanation of the roles of the investigators, how the team interacts, and integrates the multiple components; and 11) show evidence of stakeholder support such as cost-sharing (not required), letters of support confirming commitment to participation, in-kind time (Note: CSI-Water expects in-kind participation. Please list investigators not requesting funds for salaries in the proposal and budget along with their estimated time of commitment and duties). Finally, we highly encourage projects to include a member of the community that would be involved in the project as a co-PI.

Applicants whose proposals are chosen for funding are expected to undertake an ongoing dialogue with NOAA's Climate Program Office and required to report findings and communicate with CSI-Water throughout the lifetime of the grant. Investigators are required to provide annual progress reports in a prescribed format that highlight scientific progress as well as linkages to practical applications (see the "Community Corner" section of the website (http://www.climate.noaa.gov/cpo_pa/sarp/)).

Awardees would be required to report findings and communicate with CSI-Water throughout the lifetime of the grant. In addition to the prescribed progress report investigators are expected to provide periodic updates on the project. This may consist of a Principal Investigators' meeting of funded projects to discuss common questions and

frameworks to be addressed in the new research projects and periodic teleconferences with other Principal Investigators funded by CSI-Water as well as responses to periodic updates on the project status made throughout the term of the grant. We encourage creative methods of conveying the results of work done under the grant or more general knowledge about climate-human interactions to the broader community of researchers and decision makers. For example, information can be displayed on websites, in non-scientific newsletters, on CDs, on short video documentaries that can be copied and disseminated, etc.

Interested applicants for all competitions are highly encouraged to submit a 2-page Letter of Intent (LOI) outlining plans for a CSI-Water project by May 26, 2010 to Zachary.Zhao@noaa.gov.

CSI-Water intends to fund 3-5 projects with up to \$300,000 per project over 1-2 years. Proposals being offered funding from the FY11 review process are announced as soon as they have been vetted through the grant awarding process.

Projects that have been funded through CSI-Water (or its predecessor programs including SARP) are listed on our website along with associated annual and final reports (www.climate.noaa.gov/cpo_pa/SARP).

For additional information please contact:

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